National Institute of Technology (KOSEN), Akita College

One-Month Training Program in AKITA KOSEN 2025

Period of Stay : Oct. 6 to 3, 2025

National Institute of Technology, Akita College
2025.10.06(Tue.)
by Fumito Sakamoto

Exchange achievements

KOSEN KMITL

- Exchange Tour 2024(KOSEN KMUTT)
  2024.2.25-3.2
- Exchange Tour 2025(KOSEN KMUTT)
  2025.9.1-9.8 (10 participants)

- Dr. Nozawa Masakazu
  2025.4～(2027.3)
  in Mechatronics

- Dr. Yokoyama Yasuo
  2023.4～2025.3

- Third year transfer
  Ms. Baitoey joined our college
  2025.4～

- Third year transfer
  KASIDIT HATSAMEE くん
  2024.4～

NIT, Akita College

- Spring Tour 2025(KOSEN-KMITL)
  2024.3.6-3.9 (15 participants)

KMUTT

KOSEN
Fostering Practical Innovator

About NIT(KOSEN), Akita College

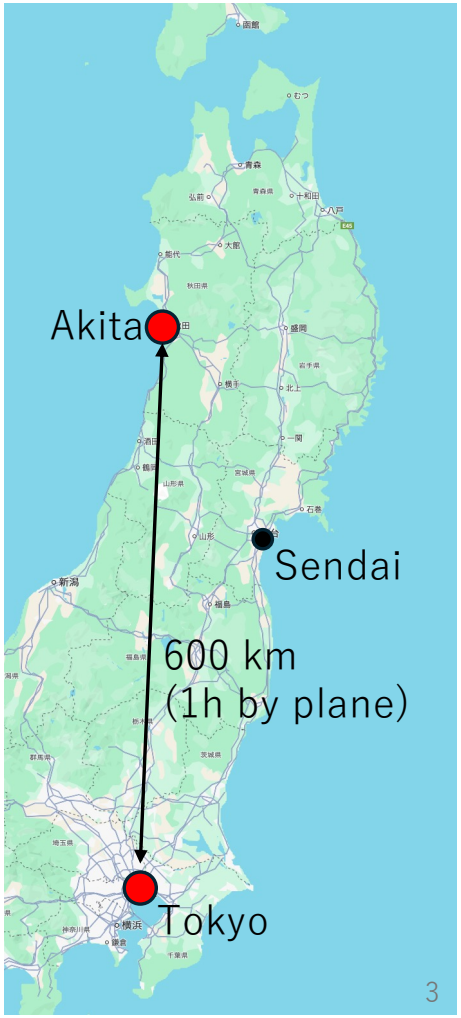
We have a single department with four major fields for the basic course (1st to 5th grade) with around 800 enrolled students.

Dept. of Creative Systems Engineering

- **Mechanical Engineering and Robotics (M)**
- **Electrical and Information Engineering (E)**
- **Material and Biological Engineering (C)**
- **Civil and Architectural Engineering (B)**

You can join not only electrical but also another basic course classes.


Main Gate of our Campus

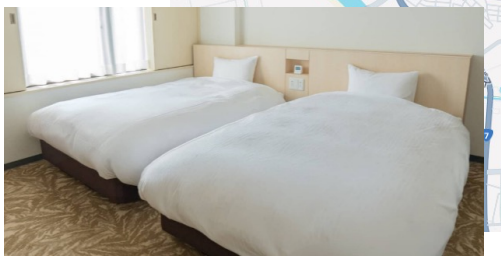


Accommodation

Alpha Inn Akita (https://www.alphainn-akita.com)

- About 50 min. to Akita KOSEN by public bus and walk.
- About 40 min. from Akita Airport by limousine bus.
- About 10 min. to Akita Sta. by public bus (can walk).

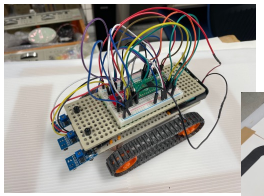
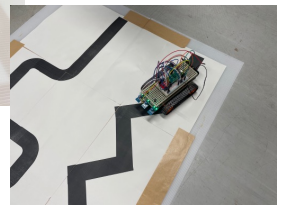
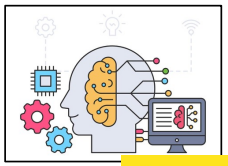
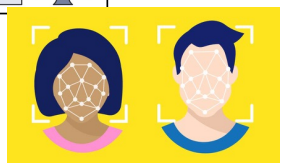
Surrounding sightseeing spots.



You can also use train and taxi services.

Around the Campus

Schedule Summary

Main Activities:

2 Main projects	Microcontroller application, AI application
3 Factory visits	MinebeaMitsumi (electronics), ABLIC (semiconductor), TDK (semiconductor)
7 Subjects	Experiments on electronics, 3D CAD, Resource recycling engineering practice, English with Japanese culture, Biochemistry, Special lectures

Other Activities:

School festival | **Japanese Culture** | **Daily report**

Welcome/Farewell parties | **Final presentation**

Timetables (Just, Fixed!), 1st week

1st week							
	Oct. 5	Oct. 6	Oct. 7	Oct. 8	Oct. 9	Oct. 10	Oct. 11
	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 8:50–10:20	Arrival in Akita	Orientation and Guidance (Please come until 10:30)	Campus Tour (Please come until 10:30)	Basic of Computer (3E)	Fundamental Engineering Practice (LL)	Biochemistry (3C)	
2 10:30–12:00				Daily Report	Daily Report	Daily Report	
		Lunch					
3 12:50–14:20		Prepare for Opening Ceremony	Daily Report	Project work AI	Applied MathematicsII (4E)	Project work AI	
4 14:30–16:00		Opening Ceremony	English V (Tamokuteki I)	Project work AI	Project work AI		
		Welcome party					

Timetables (Just, Fixed!), 2nd week

2nd week	Oct. 12 Sun	Oct. 13 Mon	Oct. 14 Tue	Oct. 15 Wed	Oct. 16 Thu	Oct. 17 Fri	Oct. 18 Sat
1 8:50–10:20		National Holiday (Sports day)	Solor power cell creation	Daily Report	Fundamental Engineering Practice (LL)	Biochemistry (3C)	
2 10:30–12:00			Daily Report	Japanese Culture Experience	Daily Report	Daily Report	
			Lunch				
3 12:50–14:20			Project work AI	Project work AI	Special Lecture IV Factory Tour (TDK)	Project work AI	
4 14:30–16:00			English V (Tamokuteki I)	Project work AI			

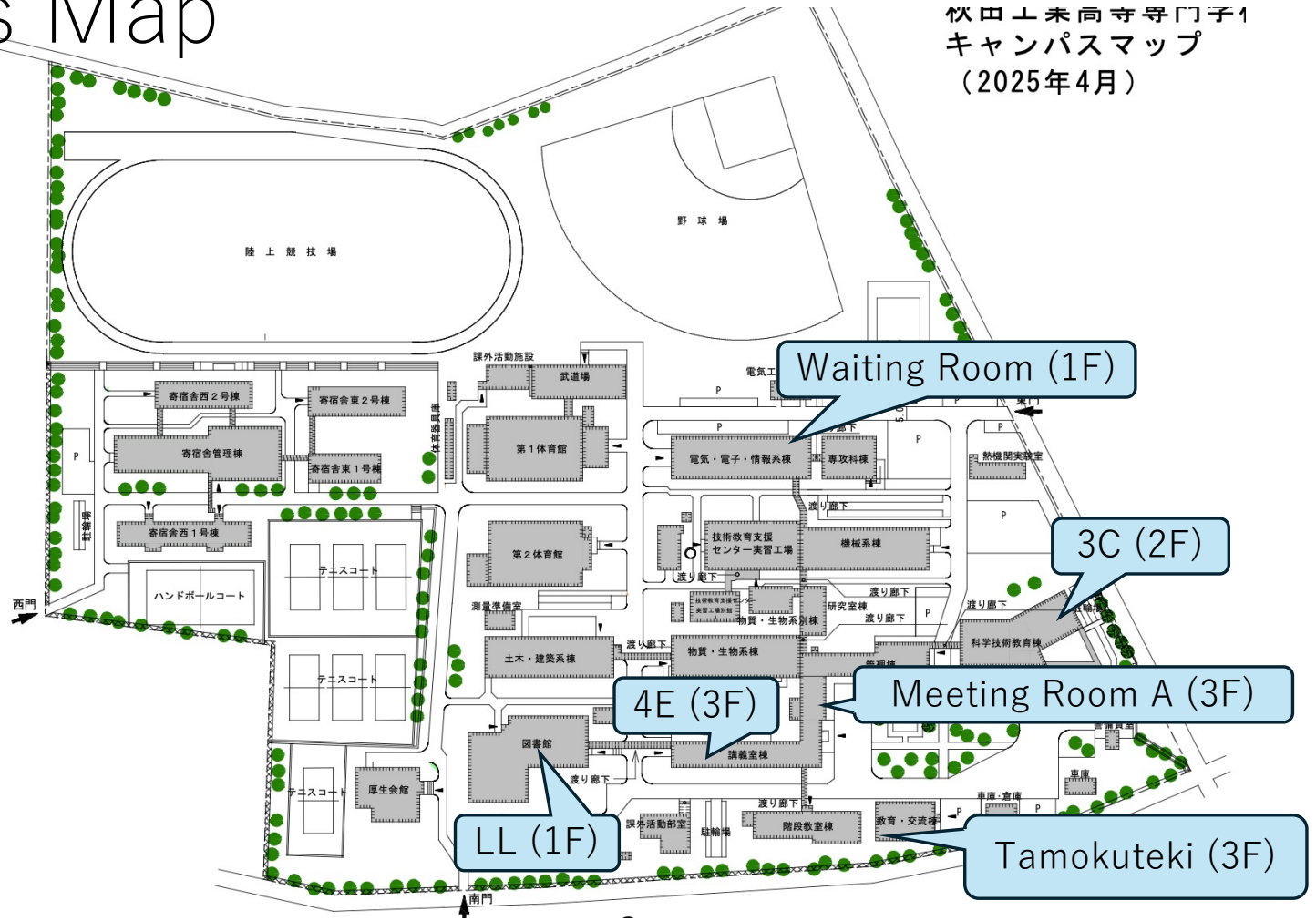
Timetables (Just, Fixed!), 3rd week

3rd week							
	Oct. 19 Sun	Oct. 20 Mon	Oct. 21 Tue	Oct. 22 Wed	Oct. 23 Thu	Oct. 24 Fri	Oct. 25 Sat
1 8:50–10:20		Resource Recycling Engineering Practice (Field work)	Solor power cell creation	Basic of Computer (3E)	Fundamental Engineering Practice (LL)	Factory Tour AM:MinebeaMitsumi PM:ABLIC	School Festival (Free attend)
2 10:30–12:00			Daily Report	Daily Report	Guidance for Basic Experiments on Electronics		
		Lunch					
3 12:50–14:20		Daily Report	Project work Linetracing car	Project work Linetracing car	Basic Experiments on Electronics (3E)		
4 14:30–16:00		Special Lecture IV	English V (Tamokuteki I)	Project work Linetracing car			
		Exercise for Japanese Tea (Join club activity)		Exercise for Japanese Tea (Join club activity)			Free attendance

Timetables (Just, Fixed!), 4th week

4th week							
	Oct. 26	Oct. 27	Oct. 28	Oct. 29	Oct. 30	Oct. 31	
	Sun	Mon	Tue	Wed	Thu	Fri	
1 8:50–10:20	School Festival (Japanese Tea Experience wearing KIMONO, Firework)	Holiday	Project work Linetracing car	Project work Linetracing car	Final Presentation	Leave for BKK	
2 10:30–12:00			Project work Linetracing car	Project work Linetracing car			
			Lunch				
3 12:50–14:20			Project work Linetracing car	Preparation for Final Presentation	Pre-closing ceremony		
4 14:30–16:00			English V (Tamokuteki I)	Preparation for Final Presentation	Closing ceremony		
	Japanese Tea experience				Farewell party		

Campus Map


秋田工業高等専門学校
キャンパスマップ
（2025年4月）
陸上競技場
野球場
課外活動施設
武道場
第１体育館
第２体育館
寄宿舎西２号棟
寄宿舎東２号棟
寄宿舎管理棟
寄宿舎東１号棟
寄宿舎西１号棟
ハンドボールコート
テニスコート
テニスコート
テニスコート
厚生会館
西門
南門
電気・電子・情報系棟
専攻科棟
熱機関実験室
渡り廊下
技術教育支援センター実習工場
機械系棟
研究室棟
物質・生物系別棟
測量準備室
土木・建築系棟
物質・生物系棟
科学技術教育棟
図書館
講義室棟
課外活動部室
駐輪場
階段教室棟
教育・交流棟
車庫・倉庫
Waiting Room (1F)
3C (2F)
Meeting Room A (3F)
4E (3F)
LL (1F)
Tamokuteki (3F)

Check lists

- For the workshop activities,
  - ☐ Laptop personal computer to install
    - ・Python environment
    - ・Thonny (MicroPython environment)

    (We will support the installation through the projects)
  - ☐ USB flush memory (Type A, volume is enough up to 1 GB)
- If you are planning to visit movie theatre or museums and so on, it is better to bring :
  - ☐ Student identification (Student ID card) to get student discount
- Plastic shopping bags are not free at most places, so you might to bring :
  - ☐ Shopping bag (we call “eco bag” in Japanese)
- Electricity in Japan is AC 100 V(50 Hz), and the terminal type is “A”, prepare :
  - ☐ plug converter (type A)

- **Some time we find wild bears and boars not only around here also city side. If you see them, do not provoke it and move away keep silently.**

Todays schedule

10/6(Mon.) ：First day in Akita College

10:30 Arrive at Akita College

(Ride a public bus from SANNOJUJIRO, 9:30 get off at SUNAYAMA, 9:53)

10:30-12:00 Orientation at Meeting Room A

12:00-12:50 Lunch (Prepare by yourself)

12:50-14:30 Prepare for opening ceremony

14:30-16:00 Opening ceremony at Meeting Room A

15:00-15:22 Online opening ceremony

15:22-15:37 Local opening ceremony

15:22-15:27 1. Greeting from president

15:27-15:32 2. Greeting from international section reader (Dr. Nishino)

15:32-15:37 3. Greeting from KOSEN-KMITL teacher (Ms. Clean)

Move to party room

16:00-17:00 Welcome party at techno community

Contact Persons

- Director of Center for International Exchange
  Dr. Tomomichi Nishino (nishino@akita-nct.ac.jp)
  and
  Dr. Fumito Sakamoto (saka@akita-nct.ac.jp)

- Administrative staff at General Affairs
  Ms. Yukie Toshima (kokusai@akita-nct.ac.jp)

If you have any question or troubles, contact us with feel free!
We strongly support your stay in Akita KOSEN.

Let us check internet connection by using your “eduroam” account.

National Instit

We are waiting for your arrival in Akita! See you soon!

NAMAHAGE

(God of Mountain in OGA area)

Additional Information

Project 1

FACE RECOGNITION SYSTEM PROJECT

Outcomes:

Students will learn basic concepts related to image processing and **machine learning** and use them to **create an online face recognition system**.

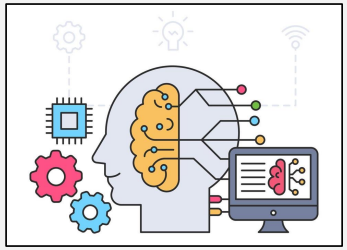
The workshop will be carried out using the online computing service Google Colaboratory and will require a standard PC and a web camera, which are already available at the PC room. The workshop will be divided into 4 major blocks as follows:

Guidance

- Introduction to Python
- Introduction to Jupyter
- Account creation if necessary

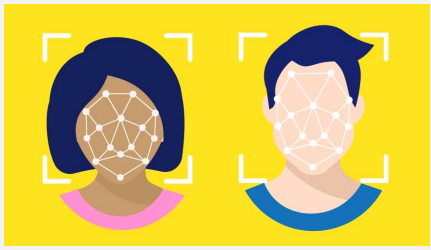
Image processing

- Color systems
- Resizing
- Other transformations



Machine learning

- Neural networks
- Parameters
- Train and testing
- Performance evaluation



Face recognition

- Haar-like features
- Dataset creation
- Online recognition

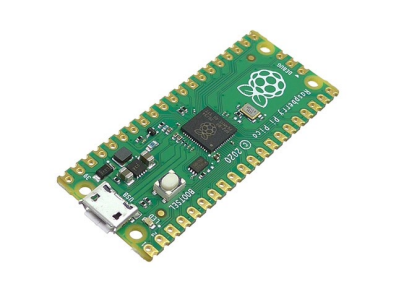
Project 2

Project on Micro-Controller Application

Outcomes:

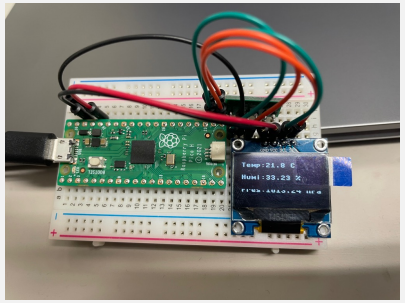
Students learn how to control electronic devices (motors, sensors, etc.) by Micro-Controller, and will create a line tracing car and take part in a competition.

In groups of four (two Thai students and two Japanese students), students will learn the basics and applications of micro-controllers. They will then build a line tracing car and compete with each other.



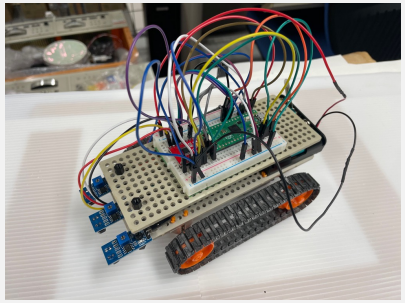
Guidance

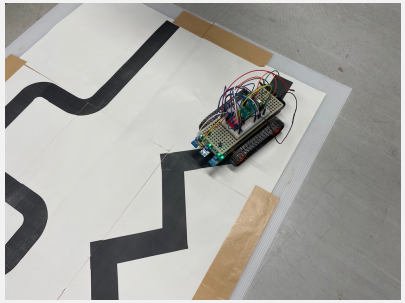
- Basics of micro-controller
- Hard and software



Basic experiments

- Control of electric devices
- Thermometer, Motor control





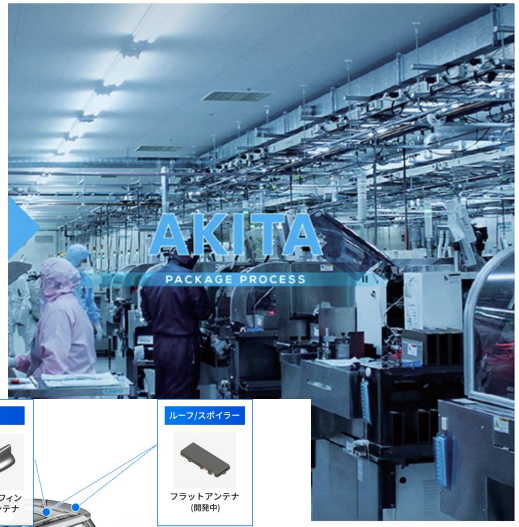
Applied experiments (line tracing car)

- Prototype machine
- Improvement (Faster and precisely)
- Competition

Factory Tours (Just, Fixed!)

- **TDK Corporation, Akita Factory and Museum**

- **MinebeaMitsumi and ABLIC Co. Ltd.**



In addition, we are considering to visit windmill generators and Japanese cultural museum in Akita.

Subjects and its outcomes (Tentative)

- **Basic Experiments on Electronics (Exercise with Japanese Students)**
  - Sequence control methods using PLC
  - Learn the relationship between voltage, current, and phase in an RLC series circuit
  - Learn the basic handling of an oscilloscope and be able to measure electrical quantities

- **Fundamental Engineering Practice (Exercise)**
  3D CAD practice
  - Software operating practice
  - Component Creation
  - Assemble operating practice

- **Resource Recycling Engineering Practice (Lecture and Fieldwork)**
  Site Visit to the Study Site for Agricultural Application of Sewage Resources
  - Survey (Sewage treatment plant & Paddy field)

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- **English V (Lecture and Groupwork with Japanese Students)**
  - Talking with Japanese students in English(Pair and Group Work)
  - Practice Outlining the Presentation and Writing the Outline
  - Design PowerPoint/Poster
  - Making presentations in English

- **Biochemistry (Lecture with Japanese Students)**
  - Understanding the components that make up living organisms
  - Understanding the functions and properties of enzymes

- **Special Lecture I (Lecture with Japanese Students)**
  - Inviting lecturers from companies to learn about technologies and product development related to renewable energy.

- **Special Lecture IV (Factory Tour with Japanese Students)**
  - Through company visits, understanding the importance of innovation, policies, and technology/product development.